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CONSIDERATION OF HOST AND HOME COUNTRIES POLICIES AND MEASURES TO PROMOTE FOREIGN DIRECT INVESTMENT, INCLUDING EXPORT PROCESSING ZONES AND SPECIAL ECONOMIC ZONES

Export processing zones: Role of foreign direct investment and developmental impact

Report by the UNCTAD secretariat

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Summary and Conclusions

(i) The rapid expansion of export processing zones (EPZs) in developing countries during the last two decades represents a significant development in the world economy. While the EPZ concept has been a subject of controversy, the proliferation of EPZs would seem to indicate that they have met some of the expectations of host countries. One of the principal objectives for the establishment of an EPZ is to attract foreign direct investment (FDI). There is undeniable evidence that the EPZ sector, although still small, has been among the most dynamic sectors in attracting FDI, especially in recent years. Foreign investors account for a major portion of investment and employment in EPZs. Perhaps by virtue of their size, they seem to play a decisive role in shaping the industrial structure of EPZs, which is characterized by the dominance of either the textiles and garments industry or the electronics industry. Foreign investors also seem to have an influence in orienting the pattern of evolution of EPZs.

(ii) EPZs have been successful in promoting exports of manufactures and in generating foreign exchange earnings. They have also contributed considerably to the creation of productive employment, although this has involved mainly cheap low-skilled labour. The large-scale employment of young women is a dominant feature and perhaps the foremost social contribution of EPZs. They have given new opportunities and values to women who had not previously had jobs and who probably would not have entered the salaried work force in the absence of EPZs.

(iii) EPZs' effectiveness as an instrument for the achievement of long-term development objectives largely depends on the degree of linkages created with the domestic economy and on the extent to which they provide an avenue for the transfer of technology and the upgrading of skills. In this regard, EPZs seem to have fallen short of expectations. There is an inherent bias in the EPZ set-up which hinders the creation of linkages. Import-intensive operations are encouraged by special concessions on imports, although the principal obstacle to domestic sourcing seems to be the inability of local suppliers to deliver high-quality goods and services at internationally competitive prices. The export orientation of EPZs and strict regulation of domestic sales inhibits the development of forward linkages. A major limiting factor to the transfer of technology and skills is the nature of the production processes typically undertaken in EPZs, which involve low technology and/or simple skills.

(iv) Technology and skill transfers are, however, not negligible although they take place essentially within the zone, especially in joint ventures between transnational corporations (TNCs) and local firms. Moreover, progressive automation and more sophisticated processes as well as a growing number of local managers and technicians are already observable in some EPZs. Demonstration effects, which could have a modernizing influence on the economy, could well represent one of the most important contributions of EPZs to the host country.

(v) It is hard to determine the extent to which national policy has shaped the pattern of evolution of EPZs. What is evident, however, is that EPZs have evolved in a manner which tends to promote greater integration with the local

economy and a wider diversity of activities. This is reflected in the geographical extension of EPZ conditions, the more liberal attitude towards import processing, the growing participation of domestic enterprises, and the extension of activities to services and other sectors. This evolution is manifested in the different structures of existing EPZs, which imply a wider range of options for countries planning to establish EPZs as a means of promoting export-oriented industrialization. It must be stressed that EPZs represent only one possible policy instrument whose merits and disadvantages have to be weighed against those of other schemes for achieving the same goal.

(vi) Experience with EPZs has varied considerably among countries. There have been remarkably successful EPZs and among the key elements of this success are: a favourable investment climate; the presence of a high-quality labour force and an active local business community; and government's unflagging support for the EPZs. There have also been notable failures, some of which could be attributed to poor location, inadequate infrastructure, insufficient promotion, excessive costs and mismanagement.

(vii) Results of cost-benefit analyses of a few Asian EPZs have shown that incentives, subsidies and infrastructure expenditures entail considerable costs for the host countries. These costs are sometimes difficult to justify, from both the financial and economic viewpoints. However, stiff competition among EPZs of developing countries to attract investors has exerted pressure to offer increasingly generous incentives, thus eroding their net benefits. The harmonization of incentives is, therefore, an issue that deserves attention.

(viii) The long-run growth and development of EPZs will depend on whether they are well equipped to meet the challenges emerging from the structural changes in both the domestic and the international economy, including the changing patterns and more exigent requirements of FDI. The current worldwide industrial restructuring demands additional locational assets, such as a highly skilled labour force and the availability of a comprehensive support network and crucial industrial services. Host countries, therefore, need to upgrade not only the skills and educational levels of the labour force but also the technological infrastructure of the EPZ. The long-term viability of EPZs also requires their operations to be properly integrated in the overall economic and industrial development strategy of the country.

I. The background

A. EPZs and the industrialization strategy

1. The emergence of EPZs reflects a shift in the industrialization strategy of developing countries, which in the 1950s and 1960s favoured import substitution policies to reduce dependence on the outside world. These inward-looking policies were supported with high tariff barriers, generous subsidies and foreign exchange restrictions. While new industries were created and employment generated, it soon became apparent that there were limits to what they could achieve. The problem was particularly serious for small countries where domestic market size set a limit to growth. Moreover, while imports of manufactured consumer goods were reduced, there was a greater demand for imports of intermediate and capital goods to support the

industrialization process, thus creating balance-of-payments pressures. Tariff protection also often led to industrial inefficiency and high cost products that were not internationally competitive and therefore provided little contribution to foreign exchange earnings.

2. Since the late 1960s, there has been a gradual shift in emphasis towards an outward-looking industrialization strategy through the promotion of non-traditional exports. This was accompanied by a more liberal attitude towards FDI in an effort to attract it not only to acquire much needed capital but also to promote the transfer of new technologies, upgrade skills and acquire access to markets and distribution channels. EPZs were a means of fostering export-oriented industrialization, and in some countries, they assumed a prominent role in the strategy. The convergence between this shift in orientation in developing countries and the process of industrial relocation carried out by TNCs in industrialized countries to minimize production costs favoured the rapid growth of EPZs. The fragmentation of complex production processes enabled labour-intensive operations to be transferred to low-cost areas. This was supported by the developments in transport and telecommunication which made geographical barriers less important in industrial location and production control. 1/

B. Definition and objectives

3. The definition of an EPZ which conforms most closely to the original concept is that of a well-defined geographical area, enjoying customs privileges and other incentives, in which the primary activity is processing of goods for export. It is a modern adaptation of a free port or free trade zone (FTZ) where the principal activity is warehousing or trading. The enclave feature of EPZs served a number of purposes. It facilitated an internal adjustment process where reforms could be introduced gradually before their application to the rest of the country. For countries which continued to favour import substitution policies but wanted to diversify, this physical segregation avoided offending established interests. If desired, the influence of foreign-dominated enterprises on the society could be confined or exceptional conditions for some activities could be set up. For resource-poor countries, concentrating resources in the form of sophisticated infrastructure in a defined area offered obvious cost advantages.

4. The general objective of EPZs is to promote export-oriented industrialization. Among the common specific objectives are: to attract foreign capital; to provide new employment opportunities; to enhance foreign exchange earnings; to promote the transfer of technology and upgrade skills; and to develop linkages with the domestic economy. The importance attached to each of these objectives varies from country to country. Some zones were also meant to promote regional development 2/ or to exploit local natural resources. 3/ India's Santa Cruz EPZ was specifically created to acquire technological know-how in the electronics industry.

5. EPZs as they now exist have acquired a wide variety of structures, with some diverging considerably from the traditional concept. The EPZ regime that exists in Tunisia and Mauritius allows EPZ conditions country-wide to industrial estates or firms that produce for export. The Special Economic

Zones in China not only have a much larger geographical coverage but activities therein are not limited to manufacturing. Furthermore, there are economies such as Hong Kong and Singapore which do not impose tariffs or import restrictions and could therefore be considered export processing countries/territories. There is also the Manaus Free Zone in Brazil where products are sold almost exclusively to the domestic market, and therefore would be more appropriately described as an import processing zone. 4/

C. Historical perspective and global dimension

6. Ireland is credited with having pioneered the implementation of the modern EPZ concept with the establishment of the Shannon Export Free Zone in 1959. 5/ The visibility and success of the Shannon experiment, reinforced by technical assistance and studies by UNIDO and other international organizations, were among the important factors responsible for the rapid diffusion of EPZs in developing countries. The first developing country to set up an EPZ was India with the creation of the Kandla Free Trade Zone in 1965. In 1970, there were about eight EPZs in developing countries. By 1980, the number had risen to around 55 in some 30 developing countries. 6/ There are now over 200 EPZs in 60 developing countries and more are under construction or at the planning stage. Roughly half of the total number of EPZs is located in Asia, about 80 are in Latin America and the Caribbean, and more than 20 in Africa (see table 1).

7. EPZ employment increased rapidly from around 50,000 in 1970 7/ to over 2.4 million in 1990. Excluding employment in China, Latin America and the Caribbean accounted for over 50 per cent of the total, Asia and the Pacific for 41 per cent and Africa for less than 9 per cent. EPZ employment is heavily concentrated, with 12 countries and territories accounting for almost 84 per cent of the total. 8/ The same high concentration rates are found at the regional level. Three host countries accounted for almost 97 per cent of total EPZ employment in Africa (Mauritius, Tunisia and Egypt) and 84 per cent in Latin America and the Caribbean (Mexico, Dominican Republic and Brazil). In comparison, the concentration rate in Asia is much lower, with the three leading economies (Singapore, Hong Kong and Malaysia) representing 54 per cent of regional employment.

II. The role of foreign direct investment in EPZs

A. Attracting investors

8. EPZs were particularly designed to serve as focal points in attracting FDI needed to bolster the industrialization efforts of developing countries. EPZs provide an elaborate package of incentives which remove or reduce physical and administrative obstacles to relocation of manufacturing activities from foreign countries. This package also normally includes fiscal and financial concessions to foreign companies operating in the zones.

9. EPZs equipped with a fairly sophisticated infrastructure as well as standard factory buildings considerably reduce the volume of initial investment for investors. Moreover, operations can start right away and hence an earlier return on tied-up capital can be expected. A wide range of

Table 1

Employment in export processing zones in developing countries/territories, 1990

Region/Country/ Territory	No. of EPZs	Employment (thousand)	Location/Name
AFRICA	22	168.3	
Botswana	1	..	..
Egypt	5	25.0	Cairo/Alexandria/Suez/Port Said/Ismailia
Ghana	1	2.6	Tema
Lesotho	1	..	..
Liberia	1	..	..
Mauritius	.	90.0	..
Morocco	1	1.5	Tanger
Senegal	1	1.2	Dakar
Swaziland	1	..	..
Togo	1	..	Lomé
Tunisia	9	48.0	Industrial areas
ASIA AND THE PACIFIC	94	1 282.3	
Bahrein	2	4.6	Mina/North Sitra
Bangladesh	1	7.0	Chittagong
China a/	7	490.0	Shenzhen/Dongguan/Zhuhai/ Pudong/Shantou/Xiamen/ Hai nan Island
Fiji	1	..	..
Hong Kong	14	120.0	Industrial areas
India	6	30.0	Santa Cruz/Kandla/Falta/ Madras/Cochin/Noida
Indonesia b/	2	50.0	Batam Island/Jakarta
Jordan	1	..	..
Korea, Rep. of	2	24.7	Masan/Iri
Macau	4	60.0	Ribeira do Patane/Avenida do Almirante Lacerda/Avenida do Coronel Mesquita/Areia Preta Bazan
Malaysia	10	98.9	Lepas/Prai Wharves/Prai/Pulau Jerejak/Sungei Way/Batu Berendam/Tanjong Kling/Ulu Klang/Telok Panglima/Senai
Pakistan	1	2.0	Karachi
Philippines	4	35.4	Bataan/Baguio/Mactan/Cavite
Singapore	22	210.0	Industrial areas
Sri Lanka	2	55.0	Katunayake/Biyagama
Syrian Arab Rep.	6	..	Damascus/Adra/Damascus International Airport/ Aleppo/Lattaakia/Tortous Port
Taiwan, Province of China			
Thailand	3	70.7	Kaohsiung/Nantze/Taichung
Tonga	1	12.0	Lat Krabang
Turkey	1	..	..
United Arab Emirates	2	..	Mersin/Antalya
Yemen	1	12.0	Jebel Ali
	1	..	..

Employment in export processing zones in developing countries/territories, 1990 (cont'd)

Region/Country/ Territory	No. of EPZs	Employment (thousand)	Location/Name
LATIN AMERICA AND THE CARIBBEAN	79	988.0	
Antigua & Barbuda	1	..	..
Argentina	1	..	..
Aruba	2	0.8	Barcadera/Oranjestadt Port
Bahamas	2	8.0	Freeport Grand Bahama
Barbados	.	20.0	..
Belize	1	0.6	..
Brazil	1	75.0	Manaus
Chile	1	8.5	Iquique
Colombia	8	7.0	Barranquilla/Buenaventura/Cucuta Cartagena/Santa Marta/ Rionegro/Palmaseca en Palmira/Uraba
Costa Rica	4	6.0	Cartago/Coto Sur/ Alajuela/Metropolitana
Dominica	1	..	..
Dominican Republic	18	150.0	Bani/Barahona/Bonao/ Esperanza/Hainamoza/ Itabo/La Romana/ La Vega/Las Americas/ Moca/San Pedro de Macoris/Puerto Plata/San Isidro/New San Pedro de Macoris/Santiago/Villa Altagracia/ Villa Mella
El Salvador	1	3.5	San Bartolo
Grenada	1	..	..
Guatemala	1	40.0	Santo Tomas de Castilla
Haiti	1	43.0	Port-au-Prince
Honduras	2	3.0	Choloma/La Ceiba
Jaimica	2	18.0	Kingston/Montego Bay
Mexico	23	600.0	Industry parks (Maquiladoras)
Montserrat	.	..	..
Netherlands Antilles	1	0.3	Curacao
Nicaragua	1	..	Apex La Mercedes
Panama	1	0.2	Colon
St. Kitts & St. Lucia	1	..	..
St. Lucia	2	1.5	Grande Cul-de-Sac Bay/Vieux Fort
St. Vincent	1	0.4	..
Trinidad & Tobago	1	0.4	Point Lisas
Total	195	2 438.6	

Source: Starnberg Institute

Note: EPZ conditions are available countrywide in Mauritius, Tunisia, Hong Kong, Macau and Singapore and the number of EPZs refers to major industrial areas. The total number of EPZs does not include any from Mauritius but an earlier publication indicates the existence of seven major industrial parks in 1986.

a/ Employment figure is for Shenzhen and Dongguan only.

b/ Employment figure is for Batam Island only.

infrastructure facilities is provided, which would normally include access to seaport or airport, transport and telecommunication networks, energy and water supply.

10. A major complaint of foreign firms attempting to establish operations in developing countries concerns the bureaucratic hurdles involved. Thus, the streamlined administrative procedures in EPZs are a major attraction for them. Zones also offer support services essential to investors' activities. These include advisory support on labour recruitment and other personnel matters; commercial services such as banking, insurance, packaging, shipping and forwarding; legal and accounting services; social services such as canteen and medical facilities; and specialized engineering repairs.

11. Customs privileges are, of course, a principal feature of EPZs. These imply exemption from import duties on machinery and production inputs, freedom from quantitative import restrictions, as well as duty-free exports of products processed in the zone. Additional fiscal and financial incentives are offered, which may take the form of tax holidays, subsidies on public utilities and rents and exemption from foreign exchange control. Another inducement which seems to carry a greater weight than tax holidays is the provision of credit, sometimes with preferential interest rates. With the exception of customs privileges, these general incentives are similar to those offered to export-oriented foreign companies operating outside the zone. If they differ, EPZ investors normally would have an advantage. In addition to the general incentives described above, there are special incentives, such as capital grants and exemption from minimum wage or labour legislation requirements, which are specific to individual zones. As an example, Sri Lanka's package of incentives for investors is presented in table 2.

12. In setting up an incentive package for EPZs, host countries are faced with the difficult task of finding the proper balance between too stringent a package as to be inadequate in attracting investors and too generous a package as to be costly in terms of revenues foregone. There are other factors not specific to EPZs alone which constitute essential considerations for FDI in a particular country. These include a favourable investment climate, labour costs and productivity, transport costs and access to markets. 9/

B. Transnational corporations in EPZs 10/

13. Although no comprehensive information on FDI in EPZs is available, there is evidence that this sector, though still small, has been among the most dynamic sectors in attracting FDI in the past ten years. A far from negligible portion of FDI in manufacturing was directed to EPZs. In two countries with a significant EPZ sector, EPZs accounted for more than 85 per cent of FDI in Mauritius and over 70 per cent in Mexico. FDI inflows to the four oldest special economic zones in China amounted to some 30 per cent of total FDI inflows in 1989. 11/ TNCs' role in EPZ expansion has not been limited to equity participation. This has also taken the form of subcontracting arrangements with local firms operating in the zone.

Table 2
Sri Lanka: Incentives and other concessions applicable to foreign investment in area and licensed enterprises a/

Incentive or Concession	Period
Exemption from corporate income tax (tax holiday).	Up to a maximum period of 15 years reckoned from first year of profit as defined in GCEC Regulation No. 1 of 1978.
Concessionary rate of income tax at rates varying from 2 to 5 per cent on annual turnover which will be deemed to be profits.	Up to a maximum period of 15 years reckoned from the expiry of the tax holiday.
Exemption from tax on dividends paid to non-resident shareholders.	During lifetime of enterprise.
Exemption from dividend tax on dividends paid to resident shareholders out of exempt profits.	During tax holiday and for one year thereafter.
Income tax on royalties to non-residents.	Total exemption during tax holiday: thereafter at a rate not exceeding 15 per cent.
Exemption from income tax on emoluments paid to foreign employees.	During tax holiday.
Duty-free imports of plant, machinery, equipment, raw materials and other project related goods.	During lifetime of enterprise.
Duty free export of finished products.	During lifetime of enterprise.
Exemption from Import and Export Control Act.	During lifetime of enterprise.
Exemption from Exchange Control Act and authorization to open a Foreign Currency Banking Unit (FCBU) Account.	During lifetime of enterprise.
Exemption from payment of tax on transfer of shares to non-citizens.	During lifetime of enterprise.
Exemption from income tax on capital gains arising from the transfer of shares.	During lifetime of enterprise.
Relief for investment amount invested in the purchase of ordinary shares other than existing shares qualifies for deduction from purchaser's assessable income subject to established limits.	During lifetime of enterprise.

Source: Greater Colombo Economic Commission (GCEC).

a/ This applies to enterprises in the three operating EPZs (Katunayake, Biyagama and Koggala) as well as licensed enterprises located elsewhere with foreign investment which meet the following requirements: 90 per cent export-oriented for industrial products or 75 per cent export-oriented for agrobased products; a minimum initial capital outlay of not less than US$ 250,000; and funded from foreign sources. There is a separate package of incentives for other export-oriented ventures, with foreign investment which does not meet the above criteria.

14. Employment figures provide a rough order of magnitude for the importance of TNCs in EPZs. In 1986, TNCs accounted for close to two-thirds of EPZ employment in developing countries (excluding China). This represented 15 per cent of total employment of TNC subsidiaries in the area. Thus, their contribution has been significant and this employment has been growing at a very fast rate. The figure cited relates only to direct employment. If indirect employment were included, the importance of the role of TNCs in overall employment creation in the host countries would be considerably reinforced. Thus, foreign investors, perhaps by virtue of their size, seem to play a decisive role in shaping industrial structure and orienting the pattern of evolution of EPZs.

1. Type and origin of TNCs

15. Large well-known TNCs have been the prime targets of promotion efforts by EPZ authorities. However, it would appear that foreign investors in EPZs are essentially less experienced multinationals. Other general patterns that have emerged are: an important presence of large TNCs in EPZs that are heavily oriented towards the electronics industry, and a smaller proportion of large TNCs in EPZs with a more diversified industrial structure. Japanese investors account for a major share of large TNCs in EPZs. The relatively small presence of big more experienced European or United States TNCs could be mainly due to their already having established operations on a world-wide basis long before the first EPZs were set up. Moreover, their foreign investment decisions seem to be primarily dictated by global market strategy rather than production cost considerations. At the level of the host country, former colonial ties, ethnic relations and proximity to home countries or to principal markets influence the origin of investors.

16. Whereas well-seasoned global enterprises do not need an EPZ setting to survive as they have sufficient resources to operate successfully under normal conditions, the relatively risk-free environment and infrastructural support provided by EPZs are major, if not vital, attractions for aspiring TNCs and smaller firms. The emergence of a growing number of investors from developing countries is another interesting aspect of the EPZ phenomenon. For a number of them, investment in EPZs represents one of the first significant manufacturing ventures in a foreign country. Many of them come from the NIEs of Asia where domestic production cost pressures have pushed firms in labour-intensive industries to produce in EPZs of developing countries with lower labour cost. The loss of GSP status for their economies has also contributed to increased outward investment. The most conspicuous among these investors are Hong Kong enterprises. Developing country investors represent some 20 per cent of all foreign-owned enterprises in EPZs. As they are relatively small firms by world standards, their share in investment and employment would most likely be less significant. However, the contribution of these dynamic enterprises should not be underestimated. Aside from enhancing the opportunity to diversify foreign investment sources, they also provide an avenue for closer economic cooperation among developing countries, especially because they seem to have a high propensity to form joint ventures. 12/

2. Ownership structure of EPZs

17. The experience of developed countries suggests that the biggest contribution of foreign-owned affiliates to overall industrial and technological development of the host country is not so much the initial investment and accompanying technology transfer as the gradual process of integration into the economy and their progressive transformation into domestic enterprises. Thus, ownership structure is essential in determining the actual and potential developmental impact of EPZs. Table 3 presents the ownership pattern of EPZs in 13 countries. Because of the absence of three major EPZ economies in Asia (Singapore, Hong Kong and Taiwan, Province of China), figures should be viewed simply as indicative of the actual pattern. Contrary to expectations, fully or largely foreign-owned firms are not dominant, accounting for 37 per cent of the total number of enterprises. Since these firms are comparatively larger, their effective weight is, of course, greater.

Table 3
Ownership structure of EPZs in 13 countries a/

TYPE	NUMBER OF ENTERPRISES	PERCENTAGE SHARE
TOTAL	1 269	100.0
Foreign-owned	468	36.9
Domestically-owned	315	24.8
Joint ventures	486	38.3

Source: ILO-UNCTC (1988).

a/ Dominican Republic, El Salvador, Ghana, India, Jamaica, Republic of Korea, Liberia, Malaysia, Mauritius, Mexico, Philippines, Sri Lanka, and Trinidad and Tobago.

18. The significance of the strong domestic participation, especially if the share in joint ventures is included, lies in the potential contribution of EPZs in fostering the economic development of host countries, which appears to be greater than EPZ critics imply. The major weight of joint ventures may be due to incentives or more subtle forms of government pressure to associate locally-owned firms in new industrial ventures. In a few countries, like India, there are also legal restrictions on 100 per cent foreign ownership. The relative efficiency of the technology transfer process is one of the main advantages of joint ventures. The presence of a dynamic local business community tends to inspire confidence in a country's prospects. Active local partners are particularly attractive to foreign investors because they facilitate dealings with local administration and the labour force and provide easy access to supporting services. They also provide an element of stability which discourages footlooseness. In this regard, the footloose character

often associated with TNCs operating in EPZs has turned out, for the most part to be groundless. In reality, EPZ firms, once established, are fairly stable. FDI after all is not a short-term commitment and relocation costs and risks are quite substantial. 13/

3. Industrial structure of EPZs

19. One of the striking features of EPZs is the tendency to breed a distinct type of industrial monoculture, either in textiles and garments or in the electronics industry. This is reflected by the data in table 4 on the structure of employment by product group in EPZs of selected countries. While the use of employment figures is not completely satisfactory, they provide a fair approximation of production structure. As shown in the table, there is one dominant industry in each country: textiles and garments industry in Bangladesh, Dominican Republic, Egypt, Jamaica, Mauritius and Sri Lanka; and the electronics industry in Barbados, Brazil, Republic of Korea, Malaysia, Mexico and Taiwan, Province of China. Concentration rates vary among countries and zones. In Jamaica, Mauritius and Sri Lanka, the leading industry, textiles and garments, accounts for almost 90 per cent of total employment, whereas for the electronics industry, EPZs in Malaysia have the highest concentration rate of over 74 per cent.

Table 4
EPZ: Structure of employment by product group
(percentage share)

Country	Year	Textiles & garments	Electronics & electrical machinery	Transport Equipment	Footwear & leather products	Other
Bangladesh	1986	81.0	1.0	-	-	18.0
Barbados	1985	36.0 a	56.0	-	-	8.0
Brazil	1982	6.5	40.1	8.3	-	45.1
Dominican Republic	1987	59.0	6.0	-	13.0	22.0
Egypt	1980	54.0	-	-	-	46.0
Jamaica	1985	89.0	-	-	-	11.0
Korea, Republic of	1986	10.0	50.0	-	5.0	35.0
Malaysia	1979	14.2	74.5	-	-	11.3
Mauritius	1991	89.5	0.5	-	1.5	8.5
Mexico	1990	9.1	37.1	21.3	1.6	30.9
Sri Lanka	1981	89.9	2.0	-	-	8.1
Taiwan, Province of China	1983	17.0	54.0	-	4.0	25.0

Sources: ILO-UNCTC (1988) for Brazil, Egypt, Malaysia and Sri Lanka; Rhee, Katterbach & White (1990) for Dominican Republic and Republic of Korea; Kreye, Heinrichs & Fröbel (1987) for Bangladesh, Barbados, Jamaica and Taiwan, Province of China; Mauritius EIU Country Profile 1992-93; Quintanilla (1991) for Mexico.

a/ Includes footwear and leather products.

20. This distinctive industrial monoculture is certainly not a result of conscious policy decision as most EPZ development plans envisaged more diversified activities. It appears to be largely linked to the type of activities of the initial big investors. The nature of the two industries could perhaps explain their dominance. Both are large by world standards 14/ and contain production processes that tend to be very labour-intensive and are therefore attracted by low labour costs. Both were also undergoing structural changes in the 1970s and 1980s. By contrast, other industries that would have lent themselves well to an EPZ setting were too small to become dominant, or not sufficiently innovative, or else highly capital-intensive. As to the influence of foreign investors in shaping the industrial structure of EPZs, data seem to indicate a positive correlation between concentration rates and the share of foreign-owned enterprises. The domestic firms investing in EPZs are generally smaller and have a wider range of activities, which would tend to support the hypothesis of the important role TNCs play in this regard.

III. Economic and social impact of EPZs

21. The developmental impact of EPZs is largely determined by the size of the EPZ sector relative to the rest of the economy. However, performance indicators should also be viewed in the context of the role EPZs were meant to play in the industrialization strategy and the emphasis given by the host country to each of the objectives. The achievement of key objectives could provide sufficient justification for the existence of EPZs even if these EPZs are of little significance from the point of view of the entire economy.

22. The importance of the EPZ sector varies from country to country. In Macau and Mauritius, EPZs have provided the impetus for industrial growth and technological development. The prominent position of EPZs in the industrial sector of these two economies is unusual, and linked to their small size. The maquiladoras of Mexico are a major foreign exchange earner, second only to petroleum. In the Dominican Republic, the EPZ sector accounts for 3 per cent of GDP and about 40 per cent of total exports, and is the third largest net foreign exchange earner. 15/ While the EPZ in Brazil is less significant from the standpoint of the entire economy, it has fulfilled a catalytic role in regional development. In a number of developing countries, however, EPZs are of marginal importance.

23. There is apparently a healthy interaction between the performance of EPZs and the dynamism of the local economy. This is borne out by the fact that the most successful EPZs tend to be located in the fast growing NIEs. Undoubtedly, the internal dynamism of these countries has been a major attraction for EPZ investors as well as a growth stimulant for the EPZ sector itself. The latter in turn has helped to nourish the industrialization process.

24. As to the effectiveness of EPZs in achieving specific objectives, they have clearly contributed considerably to the generation of productive employment and the promotion of exports of manufactured goods. However, linkages with the domestic economy and technology transfer seems to have fallen short of expectations.

A. Employment effects

25. A major concern of most EPZs is job creation and it is probably in this area that they have been most effective. The estimate for direct employment in the EPZs of developing countries is 2.4 million in 1990 (table 1). It is likely to be considerably greater because unreported data could be substantial, especially in the case of China. Although accounting for only a fraction of total manufacturing employment, EPZs have been a very dynamic agent in generating new job opportunities. This employment-generating effect is all the more remarkable because it occurred at a time when the international economic climate was not favourable. Since 1970, EPZ employment has been responsible for over 60 per cent of new manufacturing jobs in Malaysia and Singapore and practically the totality in Mauritius. 16/

26. As to the indirect employment effect, the enclave nature of EPZs inhibits economic and social interaction with the local economy, and it is therefore more limited than for a typical foreign subsidiary operating outside the zone. It is, however, far from negligible. Most of the effect is due to wages and salaries of EPZ workers, a large portion of which is spent on local goods and services. ILO-UNCTC (1988) suggest an overall ratio of direct to indirect jobs of around 1:1.45, with 1.25 indirect effect due to wages and salaries of EPZ workers and 0.20 resulting from backward linkages. The indirect employment impact has a tendency to increase over time as TNCs become more familiar with local suppliers and customers.

27. That the type of employment created in EPZs consisted primarily of unskilled and semi-skilled jobs has to be seen in relation to the first round of the international division of labour, which mainly involved the transfer of labour-intensive operations requiring little skill and training. The industrial structure of EPZs dominated by the textiles and garments and electronics industries has resulted in the large-scale employment of women between the ages of 16-25. Female workers constitute between 70-90 per cent of the labour force in EPZs. Young women are favoured for this type of low-skill job because they are more productive, have better manual dexterity and are more adaptable to the monotony of assembly-type operations in the electronics industry than their male counterpart. In addition, wage rates for females are generally lower than for males.

28. This employment structure is not confined to EPZs but exists in industries performing the same operations whether located outside the zone or even in industrialized countries. The large-scale employment of young women is a dominant feature and perhaps the foremost social contribution of EPZs. They have given new opportunities and values to women without previous jobs and who probably would not have entered the salaried labour force in the absence of EPZs. Some critics view this aspect negatively, because it implies that EPZ jobs have little impact on unemployment and simply increase participation rates. However, in countries with a successful and important EPZ sector, after the new entrants had been absorbed unemployment rates declined.

29. The working conditions in EPZs have aroused serious social concern, relating to the lengthy working hours, night shifts for women, low unionization rates and low wages, among other things. Most of the criticisms apparently take standards in industrialized countries as a basis for

comparison. In general, EPZs adhere to local laws and regulations and there is no clear evidence that the rate of unionization and wages in EPZs differ significantly from the rest of the country. EPZ facilities are usually better than in local firms outside the zone. This is not to deny that some host governments, in an effort to make the zone more attractive to investors, have restricted the application of local labour laws and controlled union activities, or that some abuses such as malpractices in the trainee system and practically forced overtime work have been committed and perhaps are still being practised. As far as the high labour turnover rate in EPZs is concerned, this may be more related to social factors rather than work-related stress, as the upper age limit corresponds with the mean age of marriage. Lack of promotion opportunities may be an additional push factor.

B. Export promotion and foreign exchange earnings

30. One of the principal objectives for the establishment of EPZs is to promote exports of manufactured goods. Table 5 presents the export performance of EPZs in selected countries in relation to total exports and exports of manufactures. There is a wide divergence in the share of EPZs ranging from about 1 per cent of total exports for the Republic of Korea to 65 per cent for Mauritius. The minor contribution of EPZ exports in the Republic of Korea and Taiwan, Province of China does not imply that their EPZs are ineffective; indeed they are considered successful. Rather, these two countries already have a fairly developed industrial structure and EPZs simply form a part, and not a very significant one, of the overall export-oriented industrialization strategy.

Table 5
Export performance of EPZs in selected countries
(values in million US$, shares in percentages)

Country	Year	EPZ exports	Share in exports	
			Total	Manufactures
China	1989	4 270	8	12
Dominican Republic	1989	692	43	51
Jamaica	1987	100	14	66
Korea, Republic of	1986	460	1	1
Malaysia	1982	1679	14	49
Mauritius	1990	772	65	96
Mexico	1989	12 500	35	53
Philippines	1990	580	7	16
Sri Lanka	1990	437	23	44
Taiwan, Province of China	1987	2 400	4	5
Trinidad & Tobago	1983	210	9	64

Source: UNCTAD secretariat, based on United Nations Statistical Office data on total and manufactured goods (SITC5-8) exports and on national and other international sources for EPZ exports.

31. Gross exports are, however, not an adequate measure of the effective foreign exchange benefits to the host country. The inherent bias in EPZs for imported production inputs, and close links between subsidiaries and parent companies which favour intra-firm trade, reduce considerably the contribution to the balance of payments. Capital repatriation and profit remittances further reduce the BOP impact. The net export ratio (EPZ exports minus imports/total EPZ exports) could be used as an indicator of economic benefits as well as of the degree of backward linkages. This ratio is fairly high for Indonesia, Republic of Korea and India but relatively low in Malaysia and Sri Lanka despite substantial EPZ exports. In Brazil's Manaus Zone, the net export ratio is actually negative because sales of processed products are mainly for the local market.

32. Caution must be exercised in interpreting net export ratios. These may be very low or even negative in the initial period when imports of capital equipment and construction materials are high. The net export performance may also not be very meaningful in assessing older EPZs when sales to the domestic market become of significant scale as part of the process of integration with the local economy. This could take place at the expense of the net export ratio.

C. Cost-benefit analysis 17/

33. Cost-benefit analysis is a useful tool in estimating the economic profitability of an EPZ. The main benefit to the host country is the foreign exchange retained as a result of payments made by EPZ firms for the use of domestic resources (such as labour and production inputs) and for taxes. As the cost-benefit analysis converts foreign exchange into domestic currency according to its scarcity value, that is on the basis of the shadow exchange rate, any benefit accruing from the differential between shadow and official rates is also taken into account. To derive the net benefits to the host country, the social opportunity costs (based on shadow prices) of labour, production inputs and domestic borrowings must be subtracted from payments by EPZ firms. Subsidies, administrative costs and the capital cost, including maintenance, of the infrastructure of the EPZ must also be deducted. The net present value is then calculated by discounting the net benefits over the anticipated life of the zone.

34. The results of the cost-benefit analysis of EPZs in four Asian countries undertaken by Warr, one of the few studies of this nature, are presented in table 6. The main sources of gain derive from employment and foreign exchange conversion, except in Indonesia where taxes and revenues are of major importance. The expenditure on the drawback scheme, a subsidy granted by Indonesia for the use of domestic raw materials, amounted to $7 million, which is greater than the estimated net gain of $5 million from the use of such materials. 18/ In Malaysia, the subsidy on electricity outweighed the combined benefits from the use of local raw materials and capital equipment plus tax revenues raised. The most striking feature of this analysis is the negative net present value of the Philippines' Bataan EPZ, which is largely due to the enormous infrastructure costs and the cost of granting EPZ firms subsidized access to Philippine capital markets. 19/ Each of these two items is large enough to outweigh all benefits from the zone.

35. The principal limitation of the cost-benefit analysis is that the long-term projections underlying it are by their nature uncertain and depend on heroic assumptions concerning shadow prices and the discount rate. It is also less suited for evaluating an EPZ than for a conventional industrial project. It may give an indication of the internal profitability of an EPZ but says little about its external competitiveness. The success of an EPZ in attracting foreign investors depends crucially on how competitive it is in relation to other zones located elsewhere. There are other elements as well, such as demonstration effects and other externalities, essential in decision making, which may not be captured by this type of analysis.

Table 6

Cost-benefit analysis of four EPZS in Asia a/
(values in million US$ at 1982 prices)

	Indonesia	Korea, Rep.of	Malaysia	Philippines
Employment	4	39	111	59
Foreign exchange conversion	0	65	94	72
Domestic raw materials	5	16	18	3
Domestic capital equipment	0	0	10	0
Taxes and other revenue	23	18	10	11
Electricity use	-1	-13	-53	-4
Administrative costs	-13	-17	- 4	-23
Infrastructure costs/subsidies	-3	-68	-43	-196
Domestic borrowings	0	0	0	-147
TOTAL NET PRESENT VALUE	15	40	143	-225
(Internal rate of return (%))	(26)	(15)	(28)	(-3)
(Estimated ratios of shadow prices to market prices)				
Labour	0.75	0.91	0.83	0.64
Foreign exchange	1.00	1.08	1.11	1.25
Domestic raw materials	0.85	0.92	0.90	0.96
Domestic capital equipment	0.85	0.98	0.91	0.96
Electricity	1.05	1.33	0.93	1.30
Domestic financial capital b/	n.a.	n.a.	n.a.	1.58

Source: Warr (1992).

a/ Indonesia-Jakarta EPZ; Republic of Korea-Masan Free Export Zone; Malaysia - Penang Free Trade Zone; and Philippines - Bataan EPZ. For consistency, a real discount rate of 7.5 per cent and a total life for the EPZ of 25 years were assumed.

b/ N.a. means not applicable.

D. Transfer of technology and skills

36. The role of EPZs as a channel for the acquisition of technology and skills has been limited by the nature of the production processes undertaken there. As mentioned earlier, industrial activities in EPZs are largely dominated by the labour-intensive processes in either the textiles and garments industry or the electronics industry, which involve a relatively low level of technology. While the electronics industry could be considered a high-tech industry, usually only the assembly stage of the production process takes place in EPZs. The technologically sophisticated processes, such as research and development and the pre-assembly stages, are located in the head offices of TNCs.

37. The skill requirements in EPZ operations are generally of low level and demand little training. Thus, EPZs have minimal effects in raising the skills of the labour force. Moreover, the specialized nature of some of the tasks performed may be of little use in other sectors. Mid-level managers and technicians receive training but their number, though growing, is still quite limited. Progressive automation and more sophisticated processes have been observed in an increasing number of plants. These would necessarily entail the employment of skilled operators but many of the unskilled workers would be replaced by machines. Sometimes therefore there is a conflict between the employment and technology transfer objectives. The industries most likely to bring desired technology transfers are those producing capital goods and intermediate products requiring substantial investment outlays but offering limited job opportunities.

38. Technology and skill transfers are, however, not negligible although they take place essentially within the EPZs, especially in joint ventures between TNCs and locally-owned enterprises. This collaboration is the most direct and efficient way of acquiring knowledge in modern management techniques and work organization, export marketing and finance, in addition to new and advanced technology. The enclave nature of the EPZs also facilitates close contact and a substantial exchange of information and know-how between unrelated firms. While quantitatively not significant, inter-firm movements of technicians, mid-level management and production workers also provide another avenue for these transfers. The mobility of skilled workers from TNCs into domestic firms, whether inside or outside the EPZs, contributes to private enterprise development and the dissemination of technology.

39. Demonstration effects could well represent one of the most important contributions of EPZs to the host country. The sheer visibility of EPZs because of their geographical delineation and usual proximity to main centres of economic activity attracts attention from the local community, particularly the industrial sector, and generates learning effects which could have a modernizing influence on the economy. For the workers, many of whom have had no previous experience, their exposure to a modern industrial setting with its quality control, respect for deadlines, organizational discipline and spirit of innovation and enterprise is a very valuable asset.

40. It might be useful at this point to cite concrete cases where EPZs have provided a fertile ground for learning and technology transfer. In the electronics industry of Malaysia, there has been a transformation towards

integrated capital intensive high-tech plants. Integration has reached a very advanced level and the technical organization of production and personnel skill requirements have changed substantially. The share of employees not directly involved in production, such as technicians, supervisors and engineers, now averages 28 per cent of total employment, compared to 5 per cent in the early years of operation. Important management posts have been filled by Malaysians as TNCs became aware of the advantages this offered in terms of costs and acceptance of local workers. 20/ A similar increase in the number of local managers and technicians has occurred in EPZs in the Dominican Republic and Mexico. In Mexico, more advanced technologies and sophisticated industrial processes have also been introduced in the maquiladoras.

E. Linkages with the domestic economy

41. The effectiveness of EPZs as an instrument for achieving the long-term development objectives of the host countries largely depends on the degree of integration with the domestic economy. Undoubtedly the technological spin-offs arising from interactions between foreign and local enterprises and workers within the zone are valuable, but equally important are those resulting from linkages created with the rest of the economy. The linkage potential of EPZs has only been realized to a small degree. So far, the major economic linkages concern service-oriented activities and the effects of consumer goods purchases by the EPZ labour force. Perhaps the more stimulating forms of linkage from the point of view of technology diffusion are backward linkages, either in the form of subcontracting or domestic sourcing, and forward linkages through the sale of zone products locally. There is an inherent bias in the EPZ set-up which hinders the creation of such linkages, although host countries have generally encouraged EPZ firms to purchase local inputs. Import-intensive operations are encouraged by special concessions on imports. The export orientation of EPZs and strict regulation of local sales of zone products limit the development of forward linkages.

42. There are a number of factors that determine the degree of backward linkages. 21/ The most important of these is the level of industrial development of the host country. A well-developed industrial base with the capacity to produce goods that are internationally competitive in terms of price and quality would encourage domestic sourcing. Foreign firms are generally motivated by commercial considerations and there is an obvious transport cost advantage in getting supplies in the area. Moreover, establishing contacts with domestic firms could lead to growing involvement in the local economy which could open up the possibility of increasing local sales in the future. There is, of course, some time element involved in identifying competitive and reliable supplies and in establishing commercial relationships.

43. The degree of linkage varies with the type of industry and in particular the production process, the technological complexity and the extent to which economies of scale can be achieved. The fragmentation of the production process in the electronics industry and high economies of scale in component manufacturing could lead to an intensive reliance on subcontracting arrangements. Subcontracting is also a very efficient way of fostering integration and diffusing technology. As far as domestic sourcing is

concerned, linkage propensity is different for each industry and depends on raw material availabilities. For example, food and chemical industries are known to have high multiplier effects.

44. The extent of backward linkages also depends on overall corporate strategy. Close links between subsidiaries and parent companies limit the possibility of establishing relations with local firms. The policy of some TNCs favouring intra-firm trade not only assures them of acquiring within their own network high quality standardized products but also offers the opportunity of transfer pricing. Corporate strategy is to a large extent conditioned by the origin of foreign firms. Exports by Japanese TNCs, which have a strong preference for forming joint ventures with local partners, are channelled through trading houses, from which these TNCs get a very large proportion of production inputs.

45. Joint ventures play a catalytic role in opening up real prospects for the promotion of domestic activities. It has been observed that joint ventures are more inclined to buy local raw materials than fully foreign-owned firms. 22/ The latter tend to rely more on imported inputs, mainly because of reliability of supply and the need to preserve technological know-how within their production network. Of course, reliance on domestic sourcing is even greater for indigenous enterprises in EPZs.

46. Another factor that has a bearing on the use of domestic supplies is the trade policy of developed countries encouraging the use of their own raw materials and intermediate goods. A major factor responsible for the very low domestic content of goods produced by the Mexican maquiladoras relates to tariff rules in the United States, which allow duty-free re-imports of goods except for the value added generated abroad. 23/ The North American Free Trade Agreement (NAFTA) could reduce the disadvantage for Mexican suppliers.

47. As far as the EPZ experience of developing countries is concerned, in the large majority of cases backward linkages have not developed to any significant degree. The principal obstacle is the poor and unreliable quality of local supplies. In the Dominican Republic, Malaysia, the Philippines and Sri Lanka, the share of domestic raw materials is quite low. However, domestic purchases and subcontracting have developed to an exceptionally high degree in EPZs in the Republic of Korea, where, in 1985, domestic sourcing constituted more than 30 per cent of production inputs and out-zone subcontracting represented 21 per cent of total labour payments. 24/ Encouraged by the drawback scheme, domestic raw materials used in Indonesian EPZs reached 41 per cent of the total in 1982. In Mauritius, the proportion of locally purchased inputs to intermediate consumption (37 per cent in 1982) is also quite high by EPZ standards.

48. With regard to forward linkages, exposure to competition could have a stimulating effect on the local economy, leading to upgrading of the level of technology, enhanced research and development activities and greater innovation. To prevent unfair competition with firms outside the zone, customs duties are normally imposed on the products sold by EPZs. These local sales at times benefit consumers because prices for better quality products are lower than those charged by out-zone producers. Usually, access is allowed for the sale of seconds or rejects in consignments that failed to meet

deadlines. Some countries like Brazil and Colombia have a more liberal approach on this matter, with a view to developing the industrial base of particular regions. As mentioned earlier, Brazil is an extreme case where EPZ production is mainly geared to the domestic market. While not originally envisaged, forward linkages had reached 30 per cent of exports from EPZs in the Republic of Korea by 1985.

IV. Overall assessment

A. Prerequisites for success

49. There have been remarkably successful EPZs as well as EPZs which have failed to take off years after they had been established. While a conducive international climate has a bearing on the performance of EPZs, impressive successes have occurred at a time when the world economic environment has not been particularly bright. That a favourable overall policy framework is a key element to success is borne out by the fact that the most successful EPZs are located in countries which have adopted an outward-looking industrialization policy. A healthy investment climate is crucial because it is the propensity to attract a sufficient number of foreign investors and to achieve high rates of occupancy that will essentially determine the take-off stage and the success of an EPZ. Due to the relatively large initial investment involved, it is important for the zone to become operational right away.

50. However, a proper investment climate is not sufficient. A number of failures can be attributed to poor planning and design, insufficient promotion and mismanagement. The zone authority or administering agency has a central role to play in the viability of the zone. Rapid and efficient service is indispensable in maintaining the interest of prospective and current clients. Despite the fact that EPZs were meant to provide simplified administration or the ideal "one-stop service", some EPZs are plagued by complex laws and regulations and administrative red tape. This could be due to deficient institutional arrangements between the zone authority and various government agencies whose support is necessary for the development of the EPZ. It is important that zone managers keep in tune with the changing needs of investors who now demand a wider range of services, so that well-developed infrastructure and buildings are no longer sufficient. The commitment to long-term viability requires flexibility and a continuing reassessment of the growth potential; marketing and promotion; and the assurance that EPZ operations are properly integrated into the overall economic and industrial development strategy of the country.

51. Lack of promotion or costly but ineffective promotion have been cited among the factors responsible for the failure to attract investors. Increased competition between EPZs has made it imperative to devote resources to promotion. But, to keep costs within bounds, target areas for reaching potential investors must be established based on product research assessing the zone's comparative advantage. A well-executed promotion programme would combine advertising in trade publications with direct contacts with potential clients which should include not only large TNCs but small- and medium-sized firms as well. 25/

52. Of course, no amount of promotion can overcome the disabilities inherent in a zone. Usually heading the list of the causes for failure are poor location and inadequate infrastructure. These are failures at the planning and design stages. Some EPZs were built in underdeveloped areas with poor transport and communication networks. Unreliable telecommunication facilities and electricity supplies create costly bottlenecks. It is also difficult to attract the critical number of investors needed for take-off in backward regions.

53. Financial failures have resulted from excessive development costs involving ambitious infrastructure facilities and luxury buildings that have remained unutilized. The success of EPZ regimes and the recent Philippine experience 26/ demonstrate that construction of expensive zones is not necessary. Moreover, experience in some countries (the Dominican Republic and Mexico) has shown that site development and factory construction can be managed effectively by private enterprises. With regard to operating costs, it is important that the administering agency keep close control over them and avoid bureaucratic red tape.

54. Intense competition among EPZs of developing countries to attract investors or prevent relocation of existing plants has exerted pressure to offer increasingly generous incentives, thus eroding their net benefits. For example, lengthy tax holidays, which initially was not deemed necessary to attract FDI, have become an almost indispensable feature of an incentive package. Harmonization of incentives is, therefore, an issue which deserves attention by developing countries. 27/

B. The evolution and future of EPZs

55. The tendency for EPZs to go through a common life cycle may be due to the fact that most of them were based on the same models and operate in a competitive international environment. The initial phase of this cycle is characterized by significant FDI flows with one industry becoming dominant. As the years go by, the relative importance of the dominant industry declines and exports expand as the occupancy rate in the zone reaches its maximum. As the EPZ matures, FDI flows tend to level off, exports increase at a slower rate and marginal firms are replaced by larger enterprises employing workers with better technical training. The latter may partly explain the tendency of the share of women workers to decline at this stage. This phase is also characterized by a rise in unionization rates. The final phase is marked by a relative decline of fully foreign owned subsidiaries and increasing sales to local markets by EPZ firms. Towards the end of the cycle, the role of the EPZ is reappraised, which could result in either its conversion to the processing of more sophisticated higher value-added products requiring a change in the skill requirements of the labour force or its gradual phasing out as its industrial structure becomes capable of developing independently. 28/

56. This life cycle has a bearing on the observed evolution of EPZs from the original concept. The main features of their evolution are:

- The change in the enclave character of EPZs. There are two possible paths, both leading ultimately to the emergence of an export processing country, with conditions similar to those in Singapore or Hong Kong, where the entire country or territory has acquired EPZ status. One type of evolution involves a shift from a territorial to a statutory concept. Instead of being concentrated in a well-defined area, firms enjoying EPZ privileges and concessions can be established anywhere in the country. The benefits of an EPZ regime are: (a) it can promote specific types of activity irrespective of location; (b) it can develop stronger linkages with the domestic economy; (c) it can allow enterprises to choose the optimal location for their activities, especially where proximity to supply is important for economic or technical reasons; and (d) it can foster industrialization in poorer regions and ease congestion in main centres of economic activity where EPZs are usually situated. The other possible evolution is for an EPZ to become a large territory rather than a small industrial enclave. This is exemplified by China's special economic zones, which cover large areas and even an entire province in the case of Hainan Island EPZ.

- A more liberal attitude towards import processing. The factors that led to the relaxation of restrictions on domestic sales of EPZ products are: (a) the difficulty of controlling smuggling from the zone into the domestic market; (b) the need to dispose of rejects and seconds; (c) government policy to encourage linkages with the local economy; and (d) pressures from consumers who would like to have access to high quality goods produced in the zone, and from investors who are attracted by the additional source of profits. Access to local markets seems to be a more effective incentive to foreign investors than the usual concessions offered in an EPZ package, especially in countries with a large domestic market. In its extreme form, this type of evolution is illustrated by the Manaus Free Zone in Brazil.

- The growing participation of domestic enterprises. Local firms and joint ventures between domestic and foreign firms now constitute around two thirds of all EPZ enterprises in developing countries. This evolution is partly due to the economic necessity of filling up the gap in occupancy left by foreign investors. It also results from political pressures to grant local enterprises the same privileges and concessions given to foreigners. Their presence in the zone could contribute just as much, if not more, to the creation of employment, the generation of exports and foreign exchange earnings, and technological upgrading. Moreover, they are an element of stability in the zone as they can be expected to be more firmly established than their foreign counterparts.

- Extension of activities to services and other sectors. The growing service orientation in EPZs reflects the increasing importance of the services sector in economic activities and the increased tradeability of services. Some EPZs now offer financial services, such as banking and insurance, as well as data services. These activities could be further extended to cover tourism and educational services and even some forms of agri-business. The data processing enclave enterprises in Barbados are quite significant. Thailand established an export-oriented data service zone in 1989. In the special economic zones of China, investment in a wide range of economic activities is encouraged. In addition to manufacturing, these activities include real estate, tourism, commerce, transport, finance and agriculture.

57. It is hard to determine the extent to which national policy has shaped the pattern of evolution of EPZs. What is evident, however, is that EPZs are evolving in a manner which tends to promote greater integration with the local economy and a wider diversity of activities. EPZs can best serve long-term development objectives if they can operate as an integral part of the domestic economy. Could this process of integration be hastened by national policies? Experience has shown that, unless the local economy can deliver high quality goods and services at internationally competitive prices, it would be difficult to induce linkages by measures such as specifying minimum levels of local content. However, governments of host countries can exert some influence either through encouragement and incentives or by applying more focused approval criteria for investments. Perhaps the most important contribution governments can make to foster the development of EPZs is to provide a conducive policy framework for investment.

58. The evolution of EPZs is manifested in the diverse structures of existing EPZs. This diversity implies a wider range of options for countries planning to establish a zone. An EPZ can thus be built to suit the specific needs and objectives as well as the situation of a country wishing to use it as a policy instrument. It must be stressed that EPZs are just one possible measure whose merits and disadvantages have to be weighed against those of other schemes to promote exports and industrialization. Alternatively, EPZs can be used as a complement to these other measures to form an integrated industrial development strategy package.

59. As to the future of EPZs, their resilience would depend on whether they are conceived as dynamic mechanisms that can respond to changing economic conditions. There is a continuing need to monitor performance and review functions and objectives so as to be able to meet challenges emerging from the structural changes in both the domestic and the international economy, including the changing demands of foreign investors.

60. The advanced degree of industrial automation stemming from microelectronic technology has significantly reduced the share of labour costs in overall production. Thus, although cheap labour would continue to be relevant, it is no longer a sufficient precondition to induce FDI flows. The current worldwide industrial restructuring with emphasis on electrical machinery, machine tools and other higher technology industries makes high demands of EPZs. Additional locational assets, such as a highly skilled

labour force and the availability of a comprehensive industrial support network and essential industrial services, are now sought for. Economies o scale assume a crucial role in recovering the heavy investment outlays required by these types of production process. Investors, therefore, put a premium on strategic locations which allow them to serve export markets whi at the same time tapping the domestic markets of host countries. This coul lead to a higher concentration of FDI flows in only a few countries that ar able to meet all the requirements. Of course, labour-intensive projects would still be suitable for many EPZs at the initial phase of their operati or for EPZs of less advanced developing countries. 29/

61. Increased technological inputs and automation are already observable number of EPZs. Some are also exhibiting types of production that go beyon mere assembly, such as vertically integrated production processes for full manufactures of quite sophisticated products including motor bikes, engines and cameras. These are welcome developments as they would lead to higher local value added and would require greater diversity of occupational skill

62. To conclude, the new FDI trends and patterns demand the provision of much wider range of functions and services from EPZs. This requires the upgrading not only of the skills and educational levels of the labour force but also of the technological infrastructure of the zone. The long-run gro and development of EPZs will therefore depend on whether they are well equipped to meet this challenge.

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Notes

1/ Basile and Germidis (1984).

2/ Bataan EPZ (Philippines), Kandla FTZ (India) and Manaus Free Zone (Brazil).

3/ Cheap energy for the Point Lisas FTZ (Trinidad and Tobago) and electric power for the Tema Industrial Free Zone (Ghana).

4/ At the Manaus Free Zone, domestic sales increased from 71 per cent of total sales in 1968 to 96 per cent in 1980 (Possas, Furtado and Carvalho (1987)).

5/ An earlier example can be found in the Bahamas where the Authority of the Freeport Grand Bahama, which was created in 1955, was given a mandate to develop industry (Hein, P. (1988)).

6/ UNCTAD (1985).

7/ ILO-UNCTC (1988).

8/ The 12 countries and territories are: Mexico, Singapore, Dominican Republic, Hong Kong, Malaysia, Mauritius, Brazil, Taiwan, Province of China, Macau, Sri Lanka, Indonesia and Tunisia.

9/ These factors are discussed in UNCTAD (1993).

10/ This section is largely based on ILO-UNCTC (1988).

11/ Grub and Lin (1991).

12/ Maex (1983). Based on figures from EPZs in Malaysia, the Philippines and Sri Lanka, only 14 per cent of the enterprises from the developing countries were wholly foreign-owned, compared with 82 per cent for US-based TNCs and 56 per cent for TNCs from other industrialized countries.

13/ See Hein, C. (1988) for the Mauritian experience.

14/ Compared with, for example, machine tools, instruments and optical goods industries.

15/ The Courier, January-February 1992.

16/ ILO-UNCTC (1988).

17/ Warr (1992).

18/ Drawback schemes are intended to counteract the effects of protection on the costs of the imported components of such raw materials through the refund of customs duties paid.

19/ Most of the private capital invested in the Bataan EPZ or 91 per cent was raised domestically, and domestic borrowings accounted for 95 per cent of these domestically raised funds.

20/ Liebau and Wahnschaffe (1992).

21/ See UNIDO (1980) and Healey and Lütkenhorst (1989).

22/ Maex (1983) based on ARTEP Survey in Malaysia and the Philippines and studies on the Republic of Korea and India.

23/ In 1985 domestic sourcing of the maquiladoras accounted for only 1.4 per cent. More recent information on in-bond garment producers indicates local content of 1.8 per cent.

24/ Healey and Lütkenhorst (1989).

25/ Bolin (1989).

26/ The three EPZs established after the Bataan EPZ, which together accounted for only 15 per cent of cumulative development costs, have individually achieved similar (if not better) economic results to those achieved by the Bataan EPZ (data from EPZA (1992)).

27/ On the effectiveness of FDI incentives, see UNCTAD (1993).

28/ On the life cycle and evolution of EPZs, see ILO-UNCTC (1988); Basile and Germidis (1984); and UNCTC (1991).

29/ See UNIDO (1989).

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